REMARKS

This paper is responsive to the Office Action dated October 27, 2009, for which a three (3) month period of response was given. A Petition and fee for a one (1) month extension of time accompanies this paper. No additional claims fees are believed due in connection with the filing of this paper. However, should any additional claims fees, or other Petition fees, be due, the Commissioner is hereby authorized to treat this paper as authorization and/or a Petition to charge any fees due to Deposit Account No. 50-0959, Attorney Docket No. 089498.0444.

Claims 1 through 21 are pending in this application. Claims 1 and 19 have been amended to more clearly state the nature of the present invention. Support for the amendments to claims 1 and 19 can be found in the specification as filed. Accordingly, no new matter has been added. Entry and consideration of the amendments to the claims, and the remarks that follow, are believed due and are respectively requested.

I. The 35 U.S.C. § 112, First Paragraph, Rejection:

Claims 1 through 21 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner states that claim 1 contains a reference to an "optical precursor" and states that such a "term" was not adequately described in the specification as filed. Applicants respectfully disagree with the Examiner's contention regarding the term "optical precursors" as utilized in claim 1.

In this regard, the Examiner's attention is drawn to page 4, lines 25 through page 5, line 14. It is this portion of the specification as filed that clearly discloses the use of, for example, erbium (III) nitrate hydrate that is dissolved in ethanol. As would be clear to those of skill in the art, erbium (III) nitrate hydrate is a precursor that permits the inclusion of erbium into fibers made in accordance with the present invention. Since other suitable precursor compositions are known in the art that are capable of providing one or more other rare earth metals, as disclosed in various portions of the specification, the term "optical precursor" is clearly supported by the disclosure as filed.

As such, the 35 U.S.C. § 112, first paragraph, rejection of claim 1 is believed to be unfounded, and withdrawal thereof is believed due and is respectfully requested.

II. The 35 U.S.C. § 112, Second Paragraph, Rejection:

Claims 1 through 21 have been rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Specifically, the Examiner contends that claim 1 recites that an optical material is incorporated into the electrospinning solution and that there is no support for this embodiment in the specification. Applicants respectfully disagree with the Examiner's contention regarding the support for the embodiment of claim 1.

In this regard, the Examiner's attention is drawn to page 4, lines 25 through page 5, line 14. It is this portion of the specification as filed that clearly discloses the use of, for example, a combination of polydiphenoxyphosphazene (PDPP) and erbium (III) nitrate hydrate in ethanol that is used to produce electrospun fibers. Given this example, as well as others contained in the specification as filed, the Examiners rejection of claims 1 through 21 under 35 U.S.C. § 112, second paragraph, as indefinite is unfounded. Accordingly, for at least the above reason, the 35 U.S.C. § 112, second paragraph, rejection of claims 1 through 21 is believed to have been rendered moot, and withdrawal thereof is believed due and is respectfully requested.

III. The 35 U.S.C. § 103 Rejections:

Claims 1 through 5, 7, 8, and 15 through 21 have been rejected under 35 U.S.C. § 103(a) over Goldstein et. al. (United States Patent No. 5,356,487) in view of Dzenis et. al. (United States Patent No. 6,265,333) and further in view of Sennet et. al. (United States Patent Application Publication No. 2002/0096246).

Regarding Goldstein et al., Goldstein et al. discloses a combustion device for producing pre-determined radiation having a desired spectral output and heat for a variety of applications. Additionally, a process for the preparation of a porous ceramic burner is described which comprises drawing a solution which contains metal oxide fibers onto a burner skeleton by use of a vacuum to form a base fiber layer. The base fiber layer is

dried, after which an additional metal oxide fiber layer, the outer fiber layer, is added over the base fiber layer. As correctly pointed out by the Examiner, Goldstein et al. does not disclose an electrospinning process nor does it disclose electrospun fibers having an optical coating as defined at page 4, lines 12 through 14 of the specification as filed.

Given the subject matter of pending claim 1, Goldstein et al. clearly does not disclose, teach or suggest an optical coating within the meaning and/or scope of the present invention. This is because Goldstein et al. utilizes a dipping and/or spraying method to apply the metal oxide fibers to a ceramic base form. In light of this, one of skill in the art would clearly recognize that such dipped and/or sprayed fibers on a ceramic base form are not even remotely equivalent to the electrospun nanofibers of the pending claim 1. This is because the rare earth portion of the invention of claim 1 is either thinly coated on or thoroughly distributed throughout the entirety of a fiber according to the present invention. Such a structure is neither contemplated nor possible given the manufacturing processes disclosed in Goldstein et al.

Turning to Dzenis et al., Dzenis et al. relates to a fiber reinforced composite material that contains a resin matrix and primary reinforcement fibers, wherein the composite material further contains secondary, smaller diameter, reinforcement fibers at one or more ply interfaces, or portion thereof. The Examiner contends that Dzenis et al. helps to cure the deficiencies of Goldstein et al. by teaching that it is possible to produce small fibers using an electrospinning process. However, as is clear from Dzenis et al., this piece of cited art neither discloses, teaches nor suggests a process to produce an electrospun nanofiber where such a nanofiber has an optical coating or is doped with the at least one optical material or at least one optical precursor material (emphasis supplied).

This is because, Dzenis et al. never discloses, teaches or suggests a process by which to incorporate at least one optical coating composition, or at least one precursor optical coating composition, in an electrospinning solution.

Turning to Sennet et al., Sennet et al. relates to microporous membranes composed of small-diameter elastic fibers disposed in a random non-woven orientation having an effective pore size for water vapor passage, while prohibiting liquid water passage. As

disclosed therein the membranes of Sennet et al. can be electrospun and contain various additives. Based on this, the Examiner contends that the teachings of Sennet et al. cure the deficiencies of Goldstein et al. and Dzenis et al. Applicants respectfully disagree.

Regarding Sennet et al., Sennet et al. is only concerned with the formation of skin membranes and not with modifying the optical properties of a nanofiber. Therefore, one of skill in the art would not have been motivated by the teachings in Sennet et al. to arrive at the present invention as recited in pending claim 1. This is because the present invention is concerned with producing an electrospun nanofiber having an optical coating or a nanofiber that is doped with the at least one optical material or at least one optical precursor material (emphasis supplied). Sennet et al. neither discloses nor suggests anything regarding optical coatings and/or optical materials. Furthermore, Sennet et al. clearly does not contemplate the use of rare earth materials in its membranes. As such, Sennet et al. fails to cure the deficiencies of Goldstein et al. and Dzenis et al.

Accordingly, for at least the above reasons, the combination of Goldstein et al., Dzenis et al. and Sennet et al. cannot render obvious claims 1 through 5, 7, 8, and 15 through 21. As such, withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1 through 5, 7, 8, and 15 through 21 over the combination of Goldstein et al., Dzenis et al. and Sennet et al. is believed due and is respectfully requested.

Claim 6 has been rejected under 35 U.S.C. § 103(a) over Goldstein et. al. (United States Patent No. 5,356,487) in view of Dzenis et al. (United States Patent No. 6,265,333) and further view of Sennet et. al. (United States Patent Application Publication No. 2002/0096246) as applied to claim 1 above, and further in view of Tatarchuk et. al. (United States Patent No. 5,102,745). The teachings and shortcomings of Goldstein et al., Dzenis et al. and Sennet et al. are discussed in detail above.

As discussed above, the combination of Goldstein et al., Dzenis et al. and Sennet et al. does not disclose, teach or suggest the features of pending claim 1, as this art combination does not disclose, teach or suggest a electrospun nanofiber having the structure and/or properties yielded in accordance with the process of pending claim 1.

However, the Examiner contends that Tatarchuk et al. discloses that it is known in the art to use catalyst particles within multi-fiber composite networks.

However, after reviewing Tatarchuk et al., it is clear that this piece of art only discloses catalytic materials that are loosely dispersed and/or interlocked in between various portions of a two-component fibrous structure. As such, Tatarchuk et al. fails to cure the deficiencies of Goldstein et al., Dzenis et al. and Sennet et al. This is because Tatarchuk et al. fails to disclose, teach or suggest an electrospun nanofiber having an optical coating or a nanofiber that is doped with the at least one optical material or at least one optical precursor material (emphasis supplied). Given this, the 35 U.S.C. § 103(a) rejection of claim 6 over the combination of Goldstein et al., Dzenis et al. and Sennet et al. and Tatarchuk et al. is believed to be unfounded, and withdrawal thereof is believed due and is respectfully requested.

Claims 9 through 14 are rejected under 35 U.S.C. 103(a) over Goldstein et. al. (United States Patent No. 5,356,487) in view of Dzenis et al. (United States Patent No. 6,265,333) and further view of Sennet et. al. (United States Patent Application Publication No. 2002/0096246) as applied to claim 1 above, and further in view of Milstein et al. (United States Patent No. 5,601,661). The teachings and shortcomings of Goldstein et al., Dzenis et al. and Sennet et al. are discussed in detail above.

Milstein et al. discloses various mixtures of base oxides with rare oxides. Given this, and the clear shortcomings of any and all of Goldstein et al., Dzenis et al. and Sennet et al., the addition of Milstein et al. cannot render obvious pending claims 9 through 14. This is because Milstein et al. also fails to disclose, teach or suggest an electrospun nanofiber having an optical coating or a nanofiber that is doped with the at least one optical material or at least one optical precursor material (emphasis supplied).

Accordingly, for at least the above reason, the 35 U.S.C. § 103(a) rejection of claims 9 through 14 over the combination of Goldstein et al., Dzenis et al. and Sennet et al. is believed to be unfounded, and withdrawal thereof is believed due and is respectfully requested.

Claims 1 and 21 have been rejected under 35 U.S.C. § 103(a) over Dzenis et al. (United States Patent No. 6,265,333) in view of Elbert et al. (United States Patent No. 3,565,910). The teachings and shortcomings of Dzenis et al. are discussed in detail above.

Elbert et al. discloses a nylon composition containing pigment compositions. Given this, and the clear shortcomings of any and all of Dzenis et al., the addition of Elbert et al. cannot render obvious pending claims 1 and 21. This is because Elbert et al. also fails to disclose, teach or suggest an electrospun nanofiber having an optical coating or a nanofiber that is doped with the at least one optical material or at least one optical precursor material (emphasis supplied).

Given the nature of the four (4) pending 35 U.S.C. § 103(a) rejections and the art utilized in each, it is believed that the Examiner has impermissibly utilized hindsight in rejecting claims 1 through 21 under 35 U.S.C. § 103(a). As was stated by the Supreme Court in KSR International Co. v. Teleflex Inc., 127 S.Ct. 1727, 82 USPQ2d 1385, 1396 (2007):

> As is clear from cases such as Adams, a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.

Furthermore, as was stated by the Federal Circuit in ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 221 USPQ 929, 932, 933 (Fed. Cir. 1984):

> Obviousness cannot be established by combining the teaching of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or incentive to do so.

As would be apparent to one of skill in the art, such suggestion and/or incentive to combine the prior art in the manner suggested by the Examiner is clearly lacking in the instance case absent the impermissible use of hindsight. As was stated by the Federal Circuit in In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992):

> It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention" (quoting In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)).

Accordingly, given the above, any combination of Goldstein et al., Dzenis et al., Sennet et al., Tatarchuk et al., Milstein et al., and/or Elbert et al. as applied to any of claims 1 through 21 is believed to be based on the impermissible use of hindsight. Accordingly, absent a clearly supported motivation to combine, one of skill in the art would not have combined the art in the manner alleged by the Examiner absent the presently pending claims as a blueprint.

Accordingly, absent an explicit motivation to combine the various pieces of art utilized in the various pending 35 U.S.C. § 103(a) rejections in the manner alleged by the Examiner, pending claims 1 through 21 are believed to be patentable over the art made of record. Thus, for at least the above reason, withdrawal of the pending 35 U.S.C. § 103(a) rejections of claims 1 through 21 is believed to be due and is respectfully requested.

IV. Conclusion:

Accordingly, reconsideration and withdrawal of the 35 U.S.C. § 112, first paragraph, rejection, the 35 U.S.C. § 112, second paragraph, rejection and the 35 U.S.C. § 103(a) rejections of claims 1 through 21 are believed due and are respectfully requested.

For at least the foregoing reasons, claims 1 through 21 of the present application are believed to be in condition for allowance, and a Notice of Allowance is respectfully requested.

Should the Examiner wish to discuss any of the foregoing in more detail, the undersigned attorney would welcome a telephone call.

Respectfully submitted,

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